How will Alberta's second language students ever achieve proficiency?

ACTFL Proficiency Guidelines, the CEFR and the "10,000-hour rule" in relation to the Alberta K-12 language-learning context

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Abstract

Students of second and international languages in Alberta do not receive sufficient hours of instruction through formal classroom time alone to achieve distinguished levels of proficiency (Archibald, J., Roy, S., Harmel, S., Jesney, K., Dewey, E., Moisik, S., et al., 2006). This research study uses a constructivist approach (Guba & Lincoln, 1994; Twomey Fosnot, 2005) to explore what is meant by proficiency and expertise in terms of language learning, by applying what has commonly become known as "the 10,000-hour rule" of expertise (Ericsson, K. A., Krampe, R., & Tesch-Romer, C.,1993; Ericsson, K. A., Prietula, M. J., & Cokely, E. T., 2007; Gladwell, 2008).

Alberta's French as a second language: Nine-year program of studies (Grade 4 to 12) is considered as an example. This paper argues that dedicated, self-regulated informal learning is necessary to supplement classroom learning in order to achieve 10,000 hours of dedicated practice necessary to develop high levels of proficiency or expertise, according to the definitions offered by American Council on the Teaching of Foreign Languages (ACTFL) and the Common European Framework of Reference for Languages (CEFR). Recommendations are offered to

help learners and parents understand critical role of self-regulated, informal learning in achieving language proficiency.

Keywords: second language, international languages, Canada, Alberta, 10,000-hour rule, expertise, proficiency, ACTFL, Common European Framework of Reference, CEFR, expert, self-regulation, formal learning, non-formal learning, informal learning.

In the 2006 review commissioned by Alberta Education of the literature on second language learning, Archibald et al. determined that students in Alberta who take second or international language classes in school are unlikely to develop the expert levels of proficiency and fluency that equate with functional bilingualism. They state that "learning a second language for 95 hours per year for six years will not lead to functional bilingualism and fluency in the second language. Expectations must be realistic" (Archibald, J., Roy, S., Harmel, S., Jesney, K., Dewey, E., Moisik, S., et al., 2006, p. 3). This begs the question then, what would it take for Alberta students to become highly proficient in a second language?

There is no clear or easy answer. This paper explores Archibald et al.'s claim in more depth, offering examples and scenarios that are intended to offer insights into why this may be the case, and what might be done to solve the problem. This article will explore what is meant by proficiency and "expertise" in terms of language learning, by applying what has commonly become known as "the 10,000-hour rule" of expertise. Further, the paper addresses the need to incorporate dedicated practice and self-regulated informal learning as critical components of language learning. Finally, directions for further research are offered. In addition, suggestions for teachers and administrators are proposed to help Alberta's students increase their chances of developing proficiency and fluency.

Theoretical framework

This research uses a constructivist theory to frame this qualitative research study. Guba and Lincoln (1994) point out that constructivism is values-approach that is included and formative, that, unlike positivist and post-positivist approaches, is not devoid of influence and values altruism and empowerment (p. 112). A constructivist approach, "describes knowledge not

as truths to be transmitted or discovered, but as emergent, developmental, non-objective, viable constructed explanations by humans engaged in meaning-making in cultural and social communities of discourse" (Twomey Fosnot, 2005, p. ix).

One of the underlying assumptions of this research is that "knowledge is socially constructed in a dialogue between the world and human consciousness" (Kincheloe, p. 21). This research examines the notions of proficiency, expertise and the number of hours that are required to achieve maximal performance. This paper constructs theoretical arguments upon which further work, both conceptual and empirical, may be built. As language teachers, learners and researchers in Alberta, we are members of a critical community of discourse regarding our language learners and our programs. This discourse informs our practice, guides our research and may shape or influence future policy discussions or decisions. This research offers an exploration of concepts that are both emergent and developmental in nature.

What do we mean when we talk about proficiency?

A single definition of proficiency that is accepted by practitioners and scholars alike has yet to be found. The search for adequate measures of proficiency dates back to the 1950s (Sparks et al., 1997). Two organizations whose extensive work in the area of language proficiency that offer definitions of proficiency include both the Council of Europe (COE), and in particular, their Common European framework of Reference for Languages (CEFR); and the American Council on the Teaching of Foreign Languages (ACTFL).

Although many Canadian provinces have adopted the CEFR as a standard (Rehorick & Lefargue, 2005; Vandergrift, 2006), ACTFL remains an authoritative body on matters of language learning. The ACTFL Guidelines are often consulted by practitioners and scholars

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alike, even though they refer only to the American context. Alberta Education's current *School administrator's guide to implementing language programming* refers to the ACTFL guidelines as a reference for school leaders (p. 55). ACTFL defines proficiency as "what an individual can and cannot do with language at each level, regardless of where, when, or how the language was acquired" (ACTFL Proficiency Guidelines, 2012, p.3).

The ACTFL Guidelines are comprised of five proficiency levels. From the most basic to the most advanced these are: Novice, Intermediate, Advanced, Superior and Distinguished.

Levels are determined across the four skills of reading, writing, speaking and listening. The Distinguished level of proficiency is the highest a learner can achieve in any skill. Though distinguished proficiency is described differently for each skill level, across the board it is characterized by very low occurrences of errors, the ability to process and synthesize complex information effectively and quickly, high levels of control and mastery, superior problem-solving abilities and highly sophisticated performance, or in essence the "functional bilingualism" noted by Archibald et al. (2006).

Similar to ACTFL, the Common European Framework of Reference for Languages (CEFR), provides descriptors that align to particular levels or benchmarks. The CEFR articulates six levels of proficiency, moving from the most basic to the most advanced. The "basic" levels are A1 and A2. Users who are classified as "independent" are B1 and B2. Proficient users rank as C1 and C2 (Council of Europe, 2001, p. 32). As with the ACTFL "distinguished" level of proficiency, it could be argued that language learners who achieve a C2 level of competence according to the CEFR could also be considered functionally bilingual.

Using the CEFR framework, learners are assessed on a number of skills including listening, reading, spoken interaction, spoken production and writing, using a variety of competencies including declarative knowledge, or "knowledge of the world" (p. 101), as well as lexical, grammatical, semantic, phonological, orthographic, orthoepic, sociolinguistic, and intercultural competence (Council of Europe, 2001).

Numerous factors influence an individual's ability to achieve of proficiency. These include the learner's cognitive abilities, natural talent, aptitude, personality, learner preferences and learner beliefs, environment, motivation (Council of Europe, 2001; Archibald et al., 2006; Lightbrown & Spada, Mercer, 2012). This list is by no means exhaustive. Rather, it is offered to show the complexity of the number of factors that affect the development of language proficiency. The CEFR also notes that a student's "existential competence" plays a role in their ability to achieve proficiency. This includes attitudes, motivations, values, beliefs, cognitive styles, and personality styles (p. 10). In addition, an individual's ability to learn and study skills also affect the language learner's proficiency levels (p. 11).

Lightbrown & Spada (1999) point out that "learner characteristics are not independent of one another: learner variables interact in complex ways. So far, researchers know very little about the nature of these complex interactions" (p. 68).

In addition to the personal characters of the learner, some researchers have also pointed to the amount of time a person dedicates to learning the language as being an important factor in whether or not that individual will achieve high levels of proficiency (Council of Europe, 2001; Archibald et al., 2006; Lightbrown & Spada, 1999; Mercer, 2012).

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The age of the learner may affect his or her ability to develop proficiency quickly (Cummins, 1981; Genessee, 1978; Lightbrown & Spada, 1999). Lightbrown and Spada point out that "When learners receive only a few hours of instruction per week, learners who start later (for example, age 10, 11, or 12) often catch up with those who begin earlier (p. 68). In this instance, Spada and Lightbrown may be inferring that the amount of time that an individual invests in language learning may have greater importance than the age at which a person begins to learn a language. There is, however, no empirical evidence as of yet, to back up such a claim.

This paper focuses on one of these criteria and examines it in depth: the amount of time a person invests in learning the language. The paper further focuses on achievement of the highest levels of proficiency such as the Distinguished level, as defined by ACTFL (2012), and C1 and C2 levels of the CEFR (2001).

Proficiency, Expertise and the 10,000-Hour Rule

When Archibald et al. state that "95 hours per year for six years will not lead to functional bilingualism and fluency in the second language" (2006, p.3) for Alberta's students, they do not go into great depth as to why this may be the case. The answer may be found in research conducted into the nature of what it takes to develop expertise in general, and applying the same notions to language learning. The characteristics described by ACTFL of a learner who has achieved a distinguished level of proficiency, as well as the characteristics outlined by the CEFR for the C1 and C2 levels are not unlike the definitions other scholars use to describe an an expert:

"People who have developed expertise in particular areas are, by definition, able to think effectively about problems in those areas.... experts have acquired extensive knowledge that

affects what they notice and how they organize, represent, and interpret information in their environment. This, in turn, affects their abilities to remember, reason, and solve problems" (Bransford et al., 1999, p. 31).

Ericsson, K. A., Krampe, R., & Tesch-Romer, C. (1993) and Ericsson, K. A., Prietula, M. J., & Cokely, E. T. (2007) note that the development of expertise is closely related to the amount of time a person spends developing his or her skills. To be precise, Ericsson et al. (1993) and Ericsson et al. (2007) determined that 10,000 hours of deliberate learning and practice have been found to be the length of time necessary to develop high levels of expertise.

The notion was dubbed "the 10,000-hour rule" by Gladwell (2008). While a cursory reading of Gladwell's (2008) book, Outliers, may lead the reader to believe that Gladwell "invented" the notion of "the 10,000-hour rule", in fact he cites the work of Ericsson et al. (2007), and thus popularized the theoretical notions of expert performance that were originally published as academic research. While this researcher acknowledges the contribution made by Gladwell in ascribing the title "the 10,000-hour rule", every effort has been made to seek out the primary sources upon which Gladwell's work was built.

Ericsson et al. (1993) specifically studied the investment required to achieve "maximal level of performance for individuals in a given domain" (p. 366). In their earlier work, they determined that expertise was likely to take a minimum of ten years to develop. Some years later, in their 2007 article, they had refined that notion, and instead of looking only at the number of years needed to develop maximal levels of performance, they also examined how many hours would be involved in the development of high levels of expertise. They state that "even the most gifted" need to invest "a minimum of ten years (or 10,000 hours)". In other words, they assume

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approximately 1000 hours per year, over ten years to achieve a total of 10,000 hours of a combination of training and deliberate practice.

Ericsson et al. (1993) and Ericsson et al. (2007) examined the performance of world champions and prodigies, exploring what sets them above and beyond others in their field. But other researchers have expanded upon the notions proposed by Ericsson et al. (1993) and Ericsson et al. (2007), by applying the 10,000-hour model of expertise as what is necessary to achieve high levels of proficiency in any given skill area (McGonigal, 2010; Oblinger, 2005; Prensky, 2001), including language learning (Eaton, 2011a; Mercer, 2012).

The 10,000-Hour Rule in Language Learning

In this section, the notion of "the 10,000-hour rule" is applied to language learning, with specific focus on learners of French as a second language (FSL) in the Alberta K-12 system. The following examples provide insight into how many hours Alberta students might spend engaged in formal language education. The examples demonstrate precisely why Archibald's et al.'s claim that the number of instructional hours may be insufficient to achieve proficiency may be true and why their conclusions support what other researchers have found in terms of the number of hours needed to develop expertise (Eaton, 2011a; Ericsson et al, 1993; Gladwell, 2008; McGonigal, 2010; Lightbrown & Spada, 1999; Mercer, 2012; Prensky, 2001).

An Alberta example: French as a second language: Nine-year program of studies (Grade 4 to 12)

Examining the situation of FSL in Alberta provides a snapshot of the situation described by Archibald et. al. Currently in Alberta, students in elementary and junior high are guaranteed 950 hours of instruction per year, and in high school, students receive 1000 hours of instruction

per year (Alberta Education, n.d. (a)), though the number of school days per year may vary from 190 to 200 (Alberta Education, n.d. (b)). These numbers apply to courses across the curriculum. Let us focus briefly on languages.

The Alberta program of studies for French as a Second Language (FSL) states that "a second language is best taught between 30 and 40 minutes a day over the course of the school year to enable students to develop communication skills, linguistic knowledge, cultural understanding, intercultural competence and language learning strategies" (p. 1). Spending 30 to 40 minutes per day may be "best" for maintaining students' attention levels and learning efficiency, it does not mean that it is the "best" way to achieve fluency or proficiency. It takes a significant investment of time to learn a language. This is acknowledged a few pages later in the same document, when it states the "French as a Second Language program of studies reflects current knowledge about second language learning, learner-centered teaching and crosscurricular integration. It is based on the premise that students acquire language knowledge, skills and attitudes over a period of time and that over time their ability to communicate grows" (p. 4). The accompanying FSL Guide to Implementation (Alberta Education, 2008), specifically states that 95 hours per is the number of hours required for the French as a Second Language program of study in Alberta (p. 4). What is missing is a correlation between the number of hours students spend learning the language in the classroom and the length of time we can expect it will take them to achieve high levels of fluency.

If we apply the 10,000-hour rule model, we can ask how long it would take for learners in this program to achieve high levels proficiency such as the ACTFL distinguished level or the CEFR C1 or C2 levels. The answer is achieved by dividing 10,000 hours by 95 hours of

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instruction per year. The result is that according to this model, a student of French as a Second Language in Alberta would require 105.26 years to achieve "expert" levels of proficiency.

A focus on excellence: The Alberta FSL example in perspective

It could be argued that examining the development of language proficiency in terms of the number of instructional hours may be overly simplistic. It is important to reiterate that at the beginning of this article it was stated that *numerous factors affect a learner's ability to become proficient in a language*. These examples are not provided as contradictions to that notion. Nor is the implication that the number of class hours is the only factor to consider when considering how long it may take a learner to achieve high levels of expertise in the language, what ACTFL defines as a Distinguished level, or what the CEFR describes as a C1 or C2 level of proficiency. These examples are offered simply to illustrate in greater depth, why Archibald et al's (2006) point that 95 hours of instructional time per year is insufficient.

McGonigal (2010) points out that by the time a student graduates from high school, he or she will have spent approximately 10,000 hours learning the skills and knowledge associated with a basic overall education. We know that students in Alberta spend between 950 and 1000 hours per year in school (Alberta Education, n.d.(b)), which supports McGonigal's assertion. Though somewhat paradoxical, we could conclude then, that by the time a student graduates from high school he or she might be considered an "expert" learner at the most basic of levels of education. Not withstanding the irony of the notion of a "basic level of expertise", we could argue that while a student may have invested 10,000 hours of formal classroom instruction, that does not make them an expert in any one subject area. Students must take a variety of subjects across the curriculum throughout their K-12 experience. Developing expertise in any one

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particular subject area, such as French as a Second Language (or any other second or subsequent language, for that matter), requires an investment of hours far beyond what is achievable by the end of high school, if one relies on formal classroom instruction alone.

Solution: Deliberate practice through self-regulated informal learning

The question posed at the beginning of this paper was, what would it take for Alberta students to become highly proficient in a second language? If formal instructional hours are insufficient, then how *do* learners get sufficient hours to gain high levels of proficiency?

While Archibald et al. were able to examine the Alberta program of studies for second languages and were able to draw their conclusions based on their examination of those documents, determining the number of hours that second language learners spend engaging in language learning activities outside of formal classroom instructional time is much more difficult to determine. While the evidence suggests that the amount of time a learner dedicates to their language studies can impact the level of proficiency they can achieve, it is almost impossible to track the amount of hours a learner *spends* trying to achieve proficiency. The activities associated with language learning will often include formal, non-formal and informal learning activities, which have been discussed at some length in previous work (Eaton, 2010).

What scholars agree upon is that *deliberate practice* is necessary to achieve high levels of expertise (Ericsson et al, 1993; Prensky, 2001; Gladwell, 2008; McGonigal, 2010; Eaton, 2011a; Mercer, 2012.) Ericsson et al. define deliberate practice as "considerable, specific, and sustained efforts to do something you can't do well" (2007, p. 118).

Deliberate practice for acquiring language proficiency means engaging in informal learning outside of classes. Informal learning is less structured and less organized than formal

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learning and often has no particular learning objectives. (Organisation of Economic Development and Cooperation, n.d.; Werquin, 2007; Eaton, 2010.). Though there are differing opinions on whether informal learning is intentional (Werquin, 2007), informal learning can be defined as "any activity involving the pursuit of understanding, knowledge or skill which occurs without the presence of externally imposed curricular criteria" (Livingstone, p. 4). According to Livingstone, informal learning includes self-directed learning or what Ericsson et al. refer to as "deliberate practice" (1993 and 2007).

Informal learning can include both intentional deliberate practice and unintentional learning. What we are concerned with in this paper is informal learning that is both deliberate and intentional, such as:

- self-study
- homework
- active participation in conversation clubs
- tutoring from volunteers or friends
- a trip to the grocery store with a native speaker with the objective of learning the names of food items
- watching television or movies with a particular focus on using the medium to learn the target language
- listening to music with lyrics in the target language while making a deliberate attempt to learn, understand and correctly pronounce the words.
- reading a newspaper with the intention of trying to understand the content and details of the articles.

These are only a few examples; there are many more. What the examples share in common is the learner's deliberate focus on improving his or her language skills as they engage in the activity.

Ericsson et al. (1993) note that "the maximal level of performance for individuals in a given domain is not attained automatically as a function of extended experience" (p. 366). In other words, it is not enough to simply spend time sitting in a class or otherwise being exposed to the language. High levels of metacognition and intentionality are necessary elements to effective learning, regardless of whether it is formal or informal. Although the term self-awareness is used rather commonly as a desirable quality for a learner to have, Zimmerman (1995) points out that learners must go beyond developing self-awareness to develop self-regulation, and that this "involves an underlying sense of self-efficacy and personal agency and the motivational and behavioral processes to put these self-beliefs into effect" (p. 217).

Expanding our understanding of what is required to achieve 10,000 hours of dedicated practice

Let us reconsider example of the French as a second language: Nine-year program of studies (Grade 4 to 12) and its 95 formal, instructional hours per year. This example presumes no homework, purposeful informal learning or dedicated practice. Through the construction of two hypothetical scenarios, we can see how a student could achieve the 10,000 hours necessary to develop expert levels of proficiency more quickly.

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Scenario #1: 95 hours per year, supplemented by one hour of dedicated informal learning per day

We know that Alberta students spend approximately 190 days per year in school (Alberta Education, n.d.(b)). If a student were to dedicate one hour per school day to deliberate informal language learning (e.g. homework, conversing with a native speaker, self-study, etc.), he or she would increase his or her total number of hours per year from 285 (95 instructional classroom hours plus 190 hours per year of informal learning).

In this scenario, it would take a learner 35 years to achieve 9,975 hours, which is very close to the 10,000 hours necessary to achieve expert levels of proficiency. So, even a student who diligently spends one hour a night on his or her French homework is unlikely to become fluent in the language by the time he or she graduates from high school.

Scenario #2: 95 hours per year, supplemented by one hour of dedicated informal learning per day and immersion experiences

If the same student were to supplement 95 hours per year of class time and an hour per school day of dedicated practice, with an annual holiday to a Francophone region every year with the intention of learning the language, the number of informal learning hours increases dramatically.

Let us suppose that the student travels every year to Quebec and spends 14 days there. Let us further suppose that during that time, the student engages in deliberate practice and self-regulated informal learning every hour that he or she is awake, say 16 hours per day. Though exhausting, this would add up to an additional 224 hours (14 days, multiplied by 16 hours per day).

The student in scenario #2 would have the 285 hours described in scenario #1, plus an additional 224 hours from the immersion experience in Quebec. The result would be 509 hours per year. This is more than five times the number of hours that the student who only attends class for 95 instructional hours per year receives.

With an investment of 509 hours per year, it would take 19 years to achieve 9671 hours, which is close to the 10,000 hours required to achieve expert levels of proficiency. Theoretically, it could take this learner almost two decades to achieve a Distinguished level of proficiency or a C1 or C2 level on the CEFR.

So, even with the boost of an annual two-week immersion holiday, it is unlikely that students can achieve very high levels of proficiency if their only other exposure to the language is the time spent in the classroom, supplemented with regular homework or study. Greater exposure to the language is necessary, such as speaking the language at home or investing more heavily in informal learning on a weekly basis.

Scenario #3: Total immersion in the target language

In this final scenario, I ask how long would it take a student who participates in a study abroad program in which he or she lives in a Francophone region, attends a Francophone school and lives with French speakers, to achieve 10,000 hours of language learning?

If we assume that in a 24-hour day, that eight hours is spent sleeping, we are left with 16 possible hours for study, practice and informal language learning through daily activities. For the purposes of argument, let us assume that the highly motivated and dedicated student in this scenario spends every waking moment engaged in language learning. In one year of total immersion in the new language, the maximum a learner could spend is 5840 hours (16 hours per

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day x 365 days = 5840 hours). By extrapolation, it could take a learner a little less than two years to achieve 10,000 hours.

Cummins (1981) noted that even children who are fully immersed in a language may take years to achieve high levels of proficiency. In his study on second language learning of immigrants to Canada, Cummins found that "it takes at least five years, on the average, for immigrant children who arrive in the host country after the age of six to approach grade norms in L2 CALP" (p. 148). CALP is defined as "cognitive/academic language proficiency" (p. 133). Cummins also notes that a number of factors affect a learner's ability to achieve proficiency, but nevertheless, he notes that the length of time necessary to achieve proficiency may be much longer than language program administrators and policy makers might like to admit.

Though the calculations proposed in this paper, we can arrive at 10,00 hours after approximately two years, Cummins proposes that even in full-immersion situation that the achievement of language proficiency make take up to three times as long as I have proposed here. He cautions that the development of high levels of proficiency may take much longer than we might want to admit.

Why these scenarios are incomplete

In the Scenario #2, the proposed 19 years may seem like an inordinately long time for a student to achieve high levels of expertise. This may well be because the scenarios themselves are somewhat artificial. The family that travels to Quebec for two weeks every year may well have deeper motivations, such as Francophone roots, that would take them on a family holiday there every year. If that were the case, the student in scenario #2, might well spend more than one hour per school day engaged in informal learning activities during his school year in Alberta,

due to the fact that his or her family would be deeply connected to Quebec, and very likely emotionally connects to its language and its culture. This alone would increase the learner's informal language learning far beyond the walls of the formal classroom.

The scenarios are, at best, artificial constructs. They are provided merely to illustrate that dedicated practice, informal learning and immersion experiences may greatly accelerate the language learner's journey to high levels of proficiency. If 95 hours of instructional hours per year are insufficient to achieve proficiency and fluency, then the answer to proficiency lies in supplementing formal instruction with non-formal and informal language learning in a deliberate and self-regulated manner, over an extended period of time.

Directions for further study

Further research is needed to understand the notions of "expertise" as it relates to language learning in more depth. Directions for future research may include:

1. A systematic examination of the number of hours of all French programs in Alberta

This paper has focussed specifically on one example, the *French as a second language:*Nine-year program of studies (Grade 4 to 12). Next steps may include examining bilingual and immersion programs in more detail. The Alberta School administrator's guide to implementing language programming (2007) states that in order for a French immersion program to be eligible for funding from the provincial government, that students must receive at least 5000 hours of instruction from grades 1 to 12 (p. 56). There are indications that 5000 hours of instruction is insufficient in and of itself for students to achieve the "functional bilingualism" discussed by Archibald et al. (2006), particularly since bilingual programs in Alberta aim to "develop an advanced level of proficiency" (Alberta Education, 2003, p. 7).

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An examination of the role played by deliberate practice and intentional informal learning needs to be further articulated. Is it possible that informal learning, combined with 5000 hours of formal classroom instruction is enough for Alberta's students to achieve expert levels of proficiency, as defined by ACTFL or the CEFR?

2. A systematic examination of the number of hours of other language programs in Alberta

In addition to French, numerous other languages are offered in the K-12 system in Alberta including Spanish, German and Mandarin, to name a few. Future research might examine different types of programs and the total number of hours of instruction that a student might receive in a given language, depending on when he or she began those studies and what type of program he or she was enrolled in (e.g. second language, bilingual, immersion, intensive, etc.)

3. Qualitative and quantitative classroom-based research that examines what students are actually doing during their hours of instruction, and how much homework or "dedicated practice" they are investing in their language studies. Questions such as, "Do language students who spend more time on independent practice achieve higher test scores?" or "Do language students who take part in immersion programs achieve proficiency more quickly?" would be questions worth exploring.

4. Comparative studies with other Canadian jurisdictions.

This paper has addressed only the case of Alberta. Further study is required to understand how Alberta compares to other Canadian jurisdictions in terms of its K-12 students' language proficiency.

5. Comparative studies with European nations.

The CEFR that has been adopted in Canada was originally developed for use in Europe. While the author fully supports its implementation in the Canadian context, it must be noted that Canada differs from Europe in terms of its plurilingualism. Parents and teachers alike often ask, "If students in Europe can learn so many languages, why can't my child become fluent in a second language?" The answer to this question is certainly complex and well beyond the scope of this study. Insights may be found, however in a comparison between the number of hours individuals spend informally learning languages in the European context. Further study would be required to deeply explore such a notion.

6. Assessment of informal language learning.

If we accept the "10,000-hour rule" as a viable model to achieve high levels of proficiency and fluency, it becomes necessary to track (or at the very least, approximate) how many hours a learner dedicates to language learning and in particular, non-formal and informal learning that happens outside of classrooms. Assessment tools such students portfolios (California Foreign Language Project,1997; CASLT, n.d.; Eaton, 2011b) and language "passports" (Council of Europe, & National Centre for Languages, 2006) have become more prevalent both in learning and as subjects of research, further study is needed that specifically addresses learners' dedicated informal and non-formal learning and link this to the 10,000-hour rule of expertise.

7. A correlation of the Alberta program of study for FSL for grades 4-12 with the CEFR.

The current Alberta program of studies for FSL for grades 4-12 outlines numerous outcomes in a detailed fashion, but there is no obvious correlation between these outcomes and the CEFR. If

students were to write the Diplôme d'études en langue française (Diploma in French Studies) (DELF), which is correlated to the CEFR, what level could students realistically be expected to achieve by the end of grade 9? Grade 12? A correlation of provincial language learning outcomes with the CEFR is necessary not only for French, but for all languages taught in Alberta

Suggestions for language teachers and program administrators

As we understand what is required for Alberta's second language learners to achieve greater levels of proficiency, these recommendations are offered for school leaders and language teachers:

1. Make it clear to students and parents alike that learners are unlikely to develop high levels of proficiency through formal classes alone.

Help parents and learners understand that regular, dedicated practice through informal learning is a critical component to achieving proficiency. Make it clear that students must not rely solely on classes or formal instructional hours alone as a means to achieve fluency or proficiency. Help learners to develop a long-term personalized language-learning plan that includes formal classroom learning and dedicated informal learning that takes place outside the classroom.

2. Help parents set realistic expectations

Teachers and administrators need to help parents understand what level of proficiency a child can realistically achieve in a second language program. Even with a combination of formal and informal learning, Alberta's language students are likely, at best, to achieve an Intermediate level of proficiency, on the ACTFL scale or a B1 or B2 on the CEFR scale. Advanced levels of

language proficiency will require more time than most second language learners can realistically invest in a nine-year program of studies. Students who wish to develop advanced or expert levels of proficiency will need to invest more hours either through a significant immersion experience or through continued studies beyond grade 12, or both.

3. Share the "10,000-hour rule" with students and parents.

Engage learners and parents in conversations about how long it takes to develop high levels of proficiency in a language. Explain that the "10,000-hour rule" extends beyond language learning and has been documented by researchers over several decades and due to this growing body of research, this model is gaining widespread acceptance across a variety of disciplines. Help learners develop realistic expectations about the investment of time needed to develop deep levels of proficiency. Pointing out how much faster students are are likely to gain proficiency when they engage in deliberate practice may be particularly helpful.

3. Explain the concept of self-regulated learning to language learners.

Mercer (2012) notes that learners who develop the mindset that they are capable of developing proficiency are more likely to become proficient. It is not enough for student to simply put in time. Motivation, beliefs and attitudes are a critical piece of the puzzle. Students must first believe that they can learn a language and that their own attitudes and motivation play a significant role in their achievements. Point out that personal agency and self-efficacy are critical to becoming a self-regulated learner (Zimmerman, 1995).

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4. Explicitly state how many hours of intentional informal learning (including homework) are expected of Alberta students enrolled in second language courses.

Instead of merely pointing out that practice is helpful or homework is a necessary part of learning, specific expectations should be developed to address the minutes or hours per day or per week that students are expected to engage in deliberate practice, intentional informal learning and dedicated self-study. Alberta Education's "Tips for parents" (2007) offers parents numerous suggestions on how to help their children learn a new language. The tip sheet document contains numerous recommendations for deliberate practice and other forms of intentional informal learning. What is missing is an indication of how many hours per week or per month that this type of learning should be incorporated into the learner's schedule. Help parents set weekly goals for how many hours their children should invest in their language studies.

Conclusions

The results of this work could be depressing for the language student or parent who subscribes to the notion that a language may be learned quickly and that fluency can be achieved easily. Basic competence could surely be achieved in far fewer hours than the current study proposes. It is worth reiterating that both the ACTFL models and CEFR models mentioned earlier note a number of levels of competence across a variety of skills. This study does not concern itself with the amount of time required to develop Novice, Intermediate, Advanced, or even Superior levels of proficiency, as described by ACTFL (American Council on the Teaching of Foreign Languages, 2012) or A1, A2, B1 or B2 levels of the CEFR. Rather, we are concerned with what is required for a learner to develop high levels of expertise, which might arguably

correlate to a Distinguished level of proficiency under the ACTFL model or, the C1 and C2 levels of the CEFR model.

The question addressed by this study was: What would it take for Alberta students to become proficient in a second language? The answer remains complex. One element to the answer may be found in research that demonstrates that 10,000 hours of dedicated learning in order to achieve what Ericsson et al. (1993, 2007), among others (Prensky, 2001; Gladwell, 2008; McGonigal, 2010; Eaton, 2011; Mercer, 2012.) consider to be the "the magic number" to achieve expertise.

Archibald et al. (2006) claimed that 95 hours of formal instruction over six years was, in and of itself, unlikely to lead Alberta's students achieving proficiency or fluency. They are not alone in their insistence that classroom instruction itself is insufficient for learners to achieve proficiency in another language. Lightbrown and Spada (1999) also state that "school programs should be based on realistic estimates of how long it takes to learn a second language. One or two hours a week will not produce very advanced second language learners, no matter how young they were when they began" (p. 68). This paper proposes that a critical component to achieving such the high number of hours necessary to achieve expert levels of language proficiency is the self-regulated, dedicated practice, in the form of informal learning. Mercer (2012) notes that, "a personal willingness to invest time and effort and engage in repeated practice" is necessary in order to achieve proficiency. In other words, students who are serious about achieving high levels of proficiency in another language must invest thousands of hours outside the classroom, engaged in deliberate practice and independent study.

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Ericsson et al. (1993 and 2007) found that expert musicians and athletes put in daily practice over a number of years in order to rise to levels of excellence beyond what most others achieve. It stands to reason then, that in order for language learners in Alberta to rise above their current levels of competence by the time they graduate from high school, dedicated informal learning must be an explicit and critical aspect of their language learning experience.

Learners and parents alike must understand that no amount of class time will ensure they achieve distinguished levels of language competence. In order for a language learner to achieve 10,000 hours of deliberate practice he or she must not rely on classes alone to achieve proficiency. Intentional self-directed study and informal learning are critical to getting sufficient practice in order to gain proficiency.

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